

MANCHESTER COMMUNICATION PRIMARY ACADEMY

# INTENT AND SEQUENCING

## Science Subject Overview

Curriculum



NURSERY						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>NEW TOPICS</b>	TOPIC 1	TOPIC 2	TOPIC 3	TOPIC 4	TOPIC 5	TOPIC 6
<b>VOCAB</b>	nose, eyes, mouth, tongue, hair, ears, hands, legs, feet, arms	senses, see, hear, smell seed, plant, care	Weather, sun, hot, cold, snow, wind, rain	Forces, push, pull, near, far, high, more, less	material, small, big, hard, soft, same, different	Earth, land, sea, country
<b>LESSON OBJECTIVE</b>	<ul style="list-style-type: none"> <li>I am beginning to name the main body parts.</li> <li>I can name the parts of the face.</li> <li>I am beginning to understand how to take care of my body.</li> <li>I am beginning to notice differences between people.</li> </ul>	<ul style="list-style-type: none"> <li>I can use my senses to investigate the environment around me.</li> <li>I can plant seeds and care for growing plants.</li> <li>I am beginning to show care and concern for living things and the environment.</li> </ul>	<ul style="list-style-type: none"> <li>I can describe the weather</li> <li>I can talk about what I see</li> <li>I can identify the right clothes for different weather (materials)</li> </ul>	<ul style="list-style-type: none"> <li>Recap - I can describe the weather</li> <li>I can push and pull different objects</li> <li>I can apply different forces (cars and ramps/ throwing balls/ bikes)</li> <li>I can see how far something goes when force is applied</li> </ul>	<ul style="list-style-type: none"> <li>I can explore materials with different properties</li> <li>I can group materials with similar and / or different properties</li> <li>I can talk about the differences between materials and changes I notice</li> </ul>	<ul style="list-style-type: none"> <li>Recap - I can describe the weather</li> <li>What is planet Earth like?</li> <li>I know that there are different countries in the world.</li> </ul>

RECEPTION						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>NEW TOPICS</b>	TOPIC 1	TOPIC 2	TOPIC 3	TOPIC 4	TOPIC 5	TOPIC 6
<b>VOCAB</b>	senses, see, touch, hear, taste, smell	trees, same, different,	habitat, soil, life cycle, tadpoles, butterflies, chicks,	Ocean, soil, jungle, rainforest, arctic, savannah, desert	melting, small, big, hard, soft, shiny,	Earth, moon, stars, sky, planet, sun
<b>LESSON OBJECTIVE</b>	<ul style="list-style-type: none"> <li>I can confidently name the main body parts.</li> <li>I am beginning to name the 5 senses.</li> <li>I can confidently notice similarities and differences between people.</li> <li>I can confidently talk about how to take care of my body (exercise/ food choices/ dental care)</li> </ul>	<ul style="list-style-type: none"> <li>I can describe what I can see, hear and feel whilst outside.</li> <li>I can confidently explore the world around me, noticing patterns and changes over time (including changing seasons)</li> <li>I am beginning to notice similarities and differences in living things in my environment (trees).</li> </ul>	<ul style="list-style-type: none"> <li>Recap: I am beginning to notice similarities and differences in living things in my environment (trees).</li> <li>Recap: I can confidently explore the world around me, noticing patterns and changes over time (including changing seasons)</li> <li>I can understand the key features of the life cycle of a plant and an animal.</li> <li>I can make observations of animals and plants and explain why some things occur and talk about changes.</li> </ul>	<ul style="list-style-type: none"> <li>Recap: I am beginning to notice similarities and differences in living things in my environment (trees).</li> <li>I can observe an earthworm, understanding it's habitat.</li> <li>I am beginning to recognise how some environments are different to the one I live in.</li> </ul>	<ul style="list-style-type: none"> <li>Recap: I am beginning to notice similarities and differences in living things in my environment (trees).</li> <li>Recap: I can confidently explore the world around me, noticing patterns and changes over time (including changing seasons)</li> <li>I can describe what I have observed - natural and found objects.</li> <li>I am beginning to understand changing states of matter (solids to liquids: melting chocolate/ ice cream/ snow).</li> </ul>	<ul style="list-style-type: none"> <li>Recap: I am beginning to notice similarities and differences in living things in my environment (trees).</li> <li>When do we see the moon and the sun?</li> <li>Are the stars in the sky always?</li> <li>What is planet Earth like?</li> </ul>

YEAR 1						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>NEW TOPICS</b>	WEEKS 1 - 3 ANIMALS INCLUDING HUMANS - ALL ABOUT ME WEEKS 4 - 8 SEASONAL CHANGES	PLANTS  First lesson every half term - objectives seasonal changes/plants - data collections	ANIMALS, INCLUDING HUMANS	EVERYDAY MATERIALS		WEEKS 1- 4 REVISIT PLANTS AND SEASONAL CHANGES WEEKS 5-7 SKILLS FOCUS
<b>VOCAB</b>	Senses, touch, see, smell, taste, hear, fingers (skin), forehead, toes, nostrils, eyelashes, toenails, ankles, elbows, wrists, bitter, sweet, sour, sharp, tingly, fizzy  Weather (sunny, rainy, windy, snowy etc.), seasons (Winter, Summer, Spring, Autumn), sun, sunrise, sunset, day length, monsoon, khareef, thunder storm	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, root system	Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, nocturnal, reptile, tame, wild, alive, meat eater, plant eater	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see through, not see through, (transparent, opaque), fibre, melt, dull		
<b>LINKS</b>	All about me is part of the animals including humans topic - it should be explicitly taught that humans are animals. Plants Y1 Support chn to make links with the skills that have been used prior and purpose.	Seasonal Change Y1 Support chn to make links with the skills that have been used prior and purpose.	Seasonal Change Y1 Support chn to make links with the skills that have been used prior and purpose.	Classification skills developed through Plants and Animals including humans		
<b>LEARNING OBJECTIVES</b>	<ul style="list-style-type: none"> <li>ANIMALS INCLUDING HUMANS LO - I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</li> <li>SEASONAL CHANGES I can observe changes across the 4 seasons (2,6,5)</li> <li>SEASONAL CHANGES I can observe and describe weather associated with the seasons and how day length varies. (2,6,5)</li> </ul>	<ul style="list-style-type: none"> <li>I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>I can identify and describe the basic structure of a variety of common flowering plants, including trees</li> </ul>	<ul style="list-style-type: none"> <li>I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals (2,4,5)</li> <li>I can identify and name a variety of common animals that are carnivores, herbivores and omnivores</li> <li>I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</li> </ul>	<ul style="list-style-type: none"> <li>I can distinguish between an object and the material from which it is made (1,4)</li> <li>I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>I can describe the simple physical properties of a variety of everyday materials</li> <li>I can compare and group together a variety of everyday materials on the basis of their simple physical properties</li> </ul>	<ul style="list-style-type: none"> <li>I can observe changes across the 4 seasons. (2,6,5)</li> <li>I can use my observations to suggest answers to questions about plants in each season.</li> </ul>	

YEAR 1						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>SCIENTIFIC SKILLS WHICH CAN BE COVERED</b>	1.2.3.4.5.6	1.2.4.5.6	1.2.3.4.5.6	1,3,4,5,6		
<b>SCIENTIFIC SKILLS</b>	<ol style="list-style-type: none"> <li>1. asking simple questions and recognising that they can be answered in different ways</li> <li>2. observing closely, using simple equipment</li> <li>3. performing simple tests</li> <li>4. identifying and classifying</li> <li>5. using their observations and ideas to suggest answers to questions</li> <li>6. gathering and recording data to help in answering questions</li> </ol>					

YEAR 2						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>NEW TOPICS</b>	PLANTS	LIVING THINGS AND THEIR HABITATS		ANIMALS, INCLUDING HUMANS I CAN PLANT A SEED	USES OF EVERYDAY MATERIALS	WEEKS 1-4 REVISIT PLANTS AND HABITATS WEEKS 5-7 SCIENTIFIC SKILLS
	Plants - Bulbs to be planted October to December. Seeds can be planted throughout the year based on plant type. The first lesson of each half term is used to revisit objectives from plants and living things and collect data ready to examine at the end of the year					
<b>VOCAB</b>	As for year 1 plus - light, shade, sun, warm, cool, water, grow, healthy, germinate, nutrients, seed dispersal, radicle, root shoot, seedling, wilting, bulbs	Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc. offspring, young (baby), adult, herbivore, carnivore, omnivore, habitat, decay, food source, life cycle		Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples - meat, fish, vegetables, bread, rice, pasta) teenager, toddler, amphibian, mammal, skelen, dependent, independent.	Names of materials – increased range from year 1 Properties of materials - as for year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid, shape, push/pushing, pull/pulling, twist/twisting, squash/squashing. Bend/bending, stretch/stretching, boiling, natural, man-made	
<b>LINKS</b>	Seasonal Changes Y1 Plants Y1 Living things and their habitats Y2	Seasonal Changes Y1 Plants Y1 Animals including Humans Y1 Plants Y2 Animals including Humans Y2		Seasonal Change Y1 Animals Including Humans Y1 Living things and their habitats Y2. Plants Y2 Support chn to make links with the skills that have been used prior and purpose.	Link to classification skills developed through 1 and 2  Everyday materials Y1	
<b>LEARNING OBJECTIVES</b>	<ul style="list-style-type: none"> <li>I can observe and describe how seeds and bulbs grow into mature plants</li> <li>I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</li> </ul>	<ul style="list-style-type: none"> <li>I can explore and compare the differences between things that are living, dead, and things that have never been alive</li> <li>I can identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>I can identify and name a variety of plants and animals in their habitats, including microhabitats</li> <li>I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</li> </ul>		<ul style="list-style-type: none"> <li>I can notice that animals, including humans, have offspring which grow into adults</li> <li>I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> <li>I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</li> </ul>	<ul style="list-style-type: none"> <li>I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> </ul>	<ul style="list-style-type: none"> <li>I can use my observations to explain the changes that plants experience through the year.</li> </ul>

YEAR 2						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>SCIENTIFIC SKILLS WHICH CAN BE COVERED</b>	1.2.3.4.5.6	1.2.4.5.6	1.2.3.4.5.6	1,3,4,5,6		
<b>SCIENTIFIC SKILLS</b>	<ol style="list-style-type: none"> <li>1. asking simple questions and recognising that they can be answered in different ways</li> <li>2. observing closely, using simple equipment</li> <li>3. performing simple tests</li> <li>4. identifying and classifying</li> <li>5. using their observations and ideas to suggest answers to questions</li> <li>6. gathering and recording data to help in answering questions</li> </ol>					

YEAR 3						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>NEW TOPICS</b>	ANIMALS, INCLUDING HUMANS	LIGHT	ROCKS	PLANTS	FORCES AND MAGNETS	WEEK 1 - 3 FORCES AND MAGNETS WEEK 4 REVIEW DATA FOR PLANTS WEEKS 5 -7 TRANSITION - SKILLS FOCUS
	Observe plants throughout the year for this objective: explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal One lesson a term should be dedicated to this					
<b>VOCAB</b>	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints, balanced diet, roughage,	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous, Luminous, non luminous, ultra-violet, infra-red.	Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/ chalk/clay soil, Weather, weathering	Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal – wind dispersal, animal dispersal, water dispersal, self dispersal, pollen, carpel, stamen, sepal, competition, reproduce, seedling, ovary, anther	Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole	
<b>LINKS</b>	Seasonal Change Y1 Animals Including Humans Y1 Living things and their habitats Y2. Plants Y2 Animals including humans Y3 Support chn to make links with the skills that have been used prior and purpose.	Materials Year 1 Materials Year 2 Plants Y3	Materials Year 1 Materials Year 2 Living things and their habitats Y1 and Y 2 Plants, Y1, Y2 and Y3	Seasonal change Y1 Living things and their habitats Y2 Plants Y1, Y2 Rocks Y3 Light Y3	Materials Year 1 Materials Year 2	

YEAR 3						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>LEARNING OBJECTIVES</b>	<ul style="list-style-type: none"> <li>I can identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</li> <li>I can identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise that they need light in order to see things and that dark is the absence of light</li> <li>I can notice that light is reflected from surfaces</li> <li>I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>I can recognise that shadows are formed when the light from a light source is blocked by an opaque object</li> <li>find patterns in the way that the size of shadows change</li> </ul>	<ul style="list-style-type: none"> <li>I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>I can describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> <li>I can recognise that soils are made from rocks and organic matter</li> </ul>	<ul style="list-style-type: none"> <li>I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</li> <li>I can explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</li> <li>I can investigate the way in which water is transported within plants</li> <li>I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</li> </ul>	<ul style="list-style-type: none"> <li>I can compare how things move on different surfaces</li> <li>I can notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</li> <li>I can observe how magnets attract or repel each other and attract some materials and not others</li> <li>I can compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</li> <li>describe magnets as having 2 poles</li> <li>I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing</li> </ul>	
<b>SCIENTIFIC SKILLS WHICH CAN BE COVERED</b>	1,3,4,5,6,8,9	1,2,3,4,5,6,7,8,9	1,2,3,4,5,6,7,8,9	1,3,4,5,6,8,9	1,2,3,4,5,6,7,8,9	
<b>SCIENTIFIC SKILLS</b>	<ol style="list-style-type: none"> <li>asking relevant questions and using different types of scientific enquiries to answer them</li> <li>setting up simple practical enquiries, comparative and fair tests</li> <li>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> <li>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>identifying differences, similarities or changes related to simple scientific ideas and processes</li> <li>using straightforward scientific evidence to answer questions or to support their findings.</li> </ol>					



YEAR 4						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>NEW TOPICS</b>	LIVING THINGS AND THEIR HABITATS	STATES OF MATTER	ANIMALS, INCLUDING HUMANS	SOUND	ELECTRICITY	WEEKS 1 - 4 REVISIT ANIMALS INCLUDING HUMANS AND LIVING THINGS TO REVIEW FINDINGS THROUGHOUT THE YEAR. WEEKS 5 -7 TRANSITION TOPIC - SKILLS
	Living things and their habitats and Animals including humans (food chains) should be revisited throughout the year.					
<b>VOCAB</b>	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, compound leaves, leaf skeleton, deciduous, evergreen, simple leaf,	Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle, Degree celsius, solidify, states of matter, vapour, matter, particle, viscous	Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain	Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation, repeating, continuous, loud, quiet, gas, pluck	Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol, solar, terminal and rechargeable	review
<b>LINKS</b>	Seasonal Change Y1 Animals Including Humans Y1 Living things and their habitats Y2. Plants Y2 Animals including humans Y3 Plants Y3 Support chn to make links with the skills that have been used prior and purpose.	Materials Year 1 Materials Year 2 Materials Year 3	Seasonal Change Y1 Animals Including Humans Y1 Living things and their habitats Y2. Plants Y2 Animals including humans Y3 Plants Y3 Living things and their habitats Y4 Support chn to make links with the skills that have been used prior and purpose.	States of matter Y4	Materials Y1, Y2 and Y3	

YEAR 4						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>LEARNING OBJECTIVES</b>	<ul style="list-style-type: none"> <li>I can recognise that living things can be grouped in a variety of ways</li> <li>I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</li> <li>I can recognise that environments can change and that this can sometimes pose dangers to living things</li> </ul>	<ul style="list-style-type: none"> <li>I can compare and group materials together, according to whether they are solids, liquids or gases</li> <li>I can observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</li> <li>I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</li> </ul>	<ul style="list-style-type: none"> <li>I can describe the simple functions of the basic parts of the digestive system in humans</li> <li>I can identify the different types of teeth in humans and their simple functions</li> <li>I can construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul>	<ul style="list-style-type: none"> <li>I can identify how sounds are made, associating some of them with something vibrating</li> <li>I can recognise that vibrations from sounds travel through a medium to the ear</li> <li>I can find patterns between the pitch of a sound and features of the object that produced it</li> <li>I can find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>I can recognise that sounds get fainter as the distance from the sound source increases</li> </ul>	<ul style="list-style-type: none"> <li>I can identify common appliances that run on electricity</li> <li>I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>I can identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</li> <li>I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>I can recognise some common conductors and insulators, and associate metals with being good conductors</li> </ul>	
<b>SCIENTIFIC SKILLS WHICH CAN BE COVERED</b>	1,4,5,6,8,9	1,2,3,4,5,6,8,7,9	1,4,5,6,8,9	1,2,3,4,5,6,8,7,9	1,3,4,5,6,8,9	
<b>SCIENTIFIC SKILLS</b>	<ol style="list-style-type: none"> <li>asking relevant questions and using different types of scientific enquiries to answer them</li> <li>setting up simple practical enquiries, comparative and fair tests</li> <li>making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> <li>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>identifying differences, similarities or changes related to simple scientific ideas and processes</li> <li>using straightforward scientific evidence to answer questions or to support their findings.</li> </ol>					

YEAR 5						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>NEW TOPICS</b>	<b>LIVING THINGS AND THEIR HABITATS</b>	<b>FORCES</b>	<b>PROPERTIES AND CHANGES OF MATERIALS</b>		<b>EARTH AND SPACE</b>	<b>ANIMALS, INCLUDING HUMANS</b>
<b>VOCAB</b>	Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings, hatch, pup, fledgling, cell, flower, organ,	Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears Aristotle, balanced force, fulcrum, force arrow, Newton, Newton metre.	Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve reversible/non-reversible change, burning, rusting, new material, properties, natural, manufactured, man-made, synthetic, decompose, organic, weathering, decay, brittle, fragile, durable.		Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune) spherical, solar system, rotates, star, orbit, planets crescent, meridian, axis, Milky Way, asteroid, horizon, new moon, gibbous, waning, waxing, dusk, equator, North Pole, South Pole.	Vocab to be decided alongside PSHE puberty topic - see doc
<b>LINKS</b>	Seasonal Change Y1 Animals Including Humans Y1 Living things and their habitats Y2. Plants Y2 Animals including humans Y3 Plants Y3 Animals including humans Y4	Materials Y1, Y2, Y3 Forces Y3	Materials Y1, Y2, Y3 States of matter Y4		Materials Y1, Y2, Y3 Forces Y3, Y5 Light Y3	Seasonal Change Y1 Animals Including Humans Y1 Living things and their habitats Y2. Plants Y2 Animals including humans Y3 Plants Y3 Animals including humans Y4 Living things and their habitats Y5
<b>LEARNING OBJECTIVES</b>	<ul style="list-style-type: none"> <li>I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> <li>I can describe the life process of reproduction in some plants and animals ONLY</li> </ul>	<ul style="list-style-type: none"> <li>I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces</li> <li>recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</li> </ul>	<ul style="list-style-type: none"> <li>I can compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</li> <li>I can know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> <li>use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</li> <li>give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</li> <li>demonstrate that dissolving, mixing and changes of state are reversible changes</li> <li>explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</li> </ul>		<ul style="list-style-type: none"> <li>I can describe the movement of the Earth and other planets relative to the sun in the solar system</li> <li>I can describe the movement of the moon relative to the Earth</li> <li>describe the sun, Earth and moon as approximately spherical bodies</li> <li>use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</li> </ul>	I can describe the life process of reproduction in animals including humans (link to A1)

YEAR 5						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>SCIENTIFIC SKILLS WHICH CAN BE COVERED</b>	1,5,6	1,2,4,5,6	1,2,3,4,5		1,2,3,5,6	
<b>SCIENTIFIC SKILLS</b>	<ol style="list-style-type: none"> <li>1. planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>2. taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>3. recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>4. using test results to make predictions to set up further comparative and fair tests</li> <li>5. reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</li> <li>6. identifying scientific evidence that has been used to support or refute ideas or arguments</li> </ol>					

YEAR 6						
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>NEW TOPICS</b>	<b>LIVING THINGS AND THEIR HABITATS</b>	<b>ANIMALS INCLUDING HUMANS</b>	<b>ELECTRICITY</b>	<b>LIGHT</b>	<b>EVOLUTION AND INHERITANCE</b>	<b>SECONDARY SCIENCE</b>
<b>VOCAB</b>	Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering and non-flowering, family, genus, species, mould, bacteria, fungi, virus, colonies	Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs and lifestyle, oxygenated, deoxygenated, plasma, platelets, Red blood cells, white blood cells, artery, vein, capillary, chamber	Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage Current, filament, terminal, generate, resistance- NB Children do not need to understand what voltage is but will use volts and voltage to describe different batteries. The words cells and batteries are now used interchangeably,	As for year 3 plus straight lines, light rays Refraction, reflection, ultra-violet, infra -red, periscope, dispersion, spectrum, inverted, beam	Offspring, sexual reproduction, vary, characteristics, suited, adaptation, environment, inherited, species, fossils, population, variation, natural selection, evolution, genes, genetics DNA, extinct, speciation	
<b>LINKS</b>	Seasonal Change Y1 Animals Including Humans Y1 Living things and their habitats Y2. Plants Y2 Animals including humans Y3 Plants Y3 Animals including humans Y4 Living things and their habitats Y5	Seasonal Change Y1, Animals Including Humans Y1, Y3, Y4, Y5 Living things and their habitats Y2.Y5. Plants Y2,Y3	Materials Y1, Y2 and Y3 Electricity Y4	States of matter Y5 Sound Y4	Seasonal Change Y1, Animals Including Humans Y1, Y3, Y4, Y5,6 Living things and their habitats Y2.Y5. Y6 Plants Y2,Y3	

YEAR 6

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>LEARNING OBJECTIVES</b>	<ul style="list-style-type: none"> <li>I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</li> <li>I can give reasons for classifying plants and animals based on specific characteristics</li> </ul>	<ul style="list-style-type: none"> <li>I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</li> <li>I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</li> <li>I can describe the ways in which nutrients and water are transported within animals, including humans</li> </ul>	<ul style="list-style-type: none"> <li>I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</li> <li>I can compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise that light appears to travel in straight lines</li> <li>I can use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye</li> <li>I can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</li> <li>I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</li> <li>I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise that there are 3 core disciplines (4th earth science) of science and describe the differences between them</li> <li>I can explain the safety protocols for work in a lab</li> <li>I can investigate the pH scale using a range of reagents</li> <li>I can use a microscope to investigate organisms on a cellular level</li> <li>I can investigate forces</li> </ul>
<b>SCIENTIFIC SKILLS WHICH CAN BE COVERED</b>	1,2,3,4,6	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6	1,3,6	1,2,3,4,
<b>SCIENTIFIC SKILLS</b>	<ol style="list-style-type: none"> <li>planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>using test results to make predictions to set up further comparative and fair tests</li> <li>reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</li> <li>identifying scientific evidence that has been used to support or refute ideas or arguments</li> </ol>					